Submit Automation

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Background

The AQS Submit Automation software has a two-fold purpose. First, it brings AQS into compliance with the requirement to use the Exchange Network. Second, it provides a more automated file submittal process, something our user community has long requested.

Fundamentally, Submit Automation changes the way you submit your ambient air data files to AQS.

Overview: Flow of data to AQS

This chart shows the data flow to AQS, and we will discuss the process.

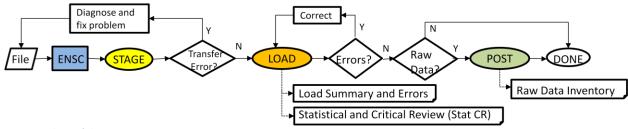


Figure 1: Flow of data to AQS

Step 1: File

Create your file of ambient air data. Each file must be zipped¹ and submitted separately. Valid options are either text files using the familiar delimited "Data Input Formats" or XML files using the AQS Schema.

Step 2: ENSC

Transfer the zipped file to AQS using the Exchange Network Services Center (ENSC). You now have two process control options:

<u>Option 1</u> – Manually control the process in AQS as before: logon to AQS, choose your Screening Group, and proceed to the Batch screen.

Option 2 – Automatically process a file and use the ENSC exclusively. (Indeed, you can now bypass AQS entirely and do all your data processing via the ENSC.)

Step 3: STAGE

This step processes your file into AQS.

¹ You can use any free or commercially available zip software utility. Submit Automation User Document 1

Step 4: LOAD

For anything other than Raw Data (i.e. sample measurements), the LOAD step is all that is needed. If you did not have errors in your file, you are done.

For Raw Data, the LOAD step now performs STAT/CR as well.

Step 5: POST

For Raw Data, the POST step moves your data to PRODUCTION (or public) status.

Details of the Process Control Options (Manual vs. Automated) for Step 2:

Option 1: Manual - You manually control the process in AQS.

- a) Logon to AQS in your Screening Group and go to the Batch screen.
- b) On the Batch screen, choose the "Go to ENSC" button. (Button with blue box in Figure 3.)
- c) On the ENSC, select the AQS Submit Service². You will always see this form:

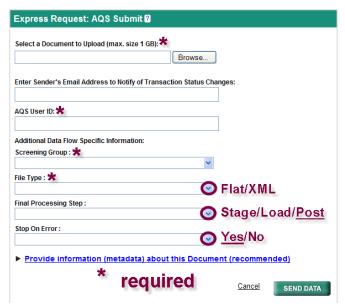


Figure 2: ENSC File upload screen

Required fields are noted. Final processing step default is "Post" and Stop On Error default³ is "Yes."

<u>To manually control the complete process</u>, select "Stage." "Send Data" and return to AQS.

If Process Status is "STAGE-ERROR" then the file has formatting problems. Fix file and resubmit.

If Process Status for your file is "STAGE-COMPLETED", you are done with Step 3: STAGE. Go to d).

<u>To automate part of the process</u> (and make the reports easier to follow), select either "Load" or "Post." "Send Data" and return to AQS.

```
"LOAD" \rightarrow Go to e). "POST" \rightarrow Go to g).
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d) Choose the "Load File" button. (Button with orange box in Figure 3.)

² You will have a one-time setup to make sure that your account will flow to AQS. See Appendix C.

³ Stop on Error applies only to the POST step; if no Raw Data in file, then this setting is ignored.

⁴ I.e., you uploaded a binary file from a word processor.

e) In AQS, your processing will be done by <u>file</u> (differs from the old method of processing by screening group.)

If your file had non Raw Data only, when "Process Status" for your file is "CRST-COMPLETED", you are done with Step 4: LOAD. Check "Recs Failing to Load" column in batch screen.

If no errors, you are done with the entire process.

If errors, use Correct or fix file outside of AQS and resubmit.

If your file had Raw Data, continue with e).

- f) Choose the "Post File" button. (Button with green box in Figure 3.)
- g) In AQS, your processing will be done by file.

When "Process Status" for your file is "POST-COMPLETED", you are done with Step 5: POST.

If no errors, you are done with the entire process.

If errors, use Correct or fix file outside of AQS and resubmit.

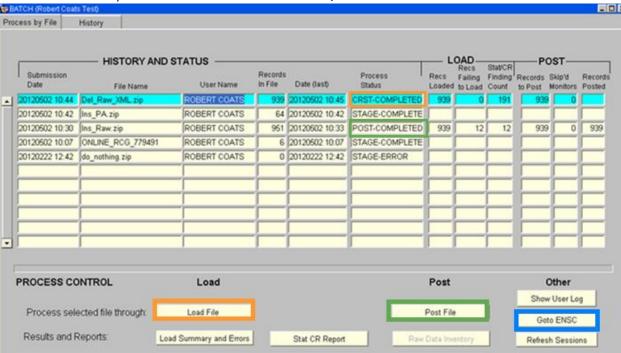


Figure 3: AQS Batch upload form

Tracking the progress of a file⁵

Via Batch screen:

You can track the progress of a file through the Batch screen on the "Process Status" column. For whatever file is "in focus" you will have the appropriate reports available; buttons for unavailable functions will be grayed out.

Via email notifications:

Emails will be sent to the email address specified on your Security Profile in AQS and to the optional email that you provided on the ENSC form. Imbedded in the email will be a link to the

⁵ We have had several users who have reported that it is taking an unreasonable amount of time to process a file. This has been particularly frustrating as it has even affected small files that users would expect to complete very quickly. Processing a file in AQS has not slowed; the delay is happening at the ENSC.

If your file is delayed, the delay time is an hour (or multiples of an hour) from when you submit your file through the ENSC. The delay is caused because a security token set for your ENSC session has expired, and is reset at one hour intervals. Until your security token is "valid" your file will not be transferred to AQS. We have asked the ENSC to address this as soon as possible. In the meantime, we urge you to refer to your incoming emails to see the status of your file. Wait to get the email confirming that your file has transferred to AQS.

report(s) available for review, which could include the Load Summary and Errors report, the Stat/CR report, and the Raw Data Inventory report. (See Appendix B for email headers and example email contents.)

Note: Process Status of "COMPLETED" does not mean that your file did not have errors. To see if there were errors, check the "Recs Failing to Load" column or the Load Summary and Error Report.

Option 2: Automated - You automatically process a file into AQS.

a) Bypass AQS and go directly to the ENSC. Select the AQS Submit Service⁶. You will always see this form:

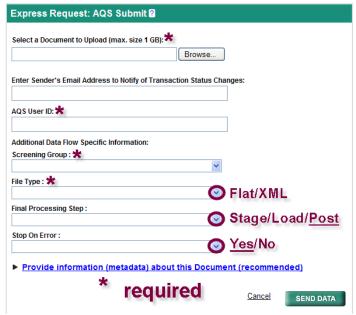


Figure 4: ENSC File upload screen

Required fields are noted. Final processing step default is "Post" and Stop On Error default is "Yes."

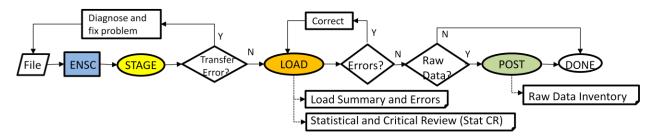
- b) For non-Reported Data, you can choose "Load" and if you do not have any errors during the AQS processing, you are DONE.
- c) For Reported Data, you can choose "Post" and if you do not have any errors during the AQS processing, you are DONE.
- d) Track the progress of your file through email notifications⁸. Emails will be sent to the email address specified on your Security Profile in AQS and to the optional email that you provided on the ENSC form. Imbedded in the email will be a link to the report(s) available for review, which could include the Load Summary and Errors report, the Stat/CR report, and the Raw Data Inventory report.
- e) Errors can be corrected in AQS via the "Correct" menu option.

⁶ You will have a one-time setup to make sure that your account will flow to AQS. See Appendix C. The ENSC will accept either flat or XML files. If you send a flat file the ENSC will add the appropriate XML headers for proper transfer.

⁷ Stop on Error applies only to the POST step; if no Raw Data in file, then this setting is ignored.

⁸ See Appendix E for email headers and example email contents.

Appendix A: AQS Flow and a Matrix of File Processing Options



At ENSC, you specify "Final Processing	At ENSC, you specify "Stop on Error" of	Did your file have Errors? ¹	You will see this "Process Status" on the AQS Batch form	What does it mean?
Step" of				
File contains Raw Data (RD transactions)				
STAGE	No/Yes ²	No	STAGE-COMPLETED	File is ready for LOAD or POST
		Yes	STAGE-ERROR	File had errors. Fix errors in file on your end and resubmit.
LOAD	No/Yes ²	No	CRST-COMPLETED	File through LOAD and STAT/CR ready for POST.
		Yes	CRST-COMPLETED	File through LOAD and STAT/CR. Check Recs Failing to Load count. Records w/errors are in Correct; all others ready for POST.
POST	No	No	POST-COMPLETED	others ready for POST. Done. Check Records Posted.
PO31	No	Yes	POST-COMPLETED POST-COMPLETED	File processing stops. Records w/errors in Correct. Other records POSTed.
	Yes	No	POST-COMPLETED	Done. Check Records Posted.
		Yes	RAW CRST-COMPLETED	File processing stops. Review reports to see reason.
File only contains non-Reported data (RP, RA, M*, or A* transactions but no RD)				
STAGE	No/Yes ²	No	STAGE-COMPLETED	File is ready for LOAD.
		Yes	STAGE-ERROR	File had errors in transfer. Fix errors in file on your end and resubmit.
LOAD	No/Yes ²	No	LOAD-COMPLETED	Done.
		Yes	LOAD-ERROR	Records w/errors in Correct (review reports to see reason). Other records are done.
A624////	NOXXE	My / / / /		///kgc/xgt/claft/friteff/hyMM/g/fcfxfxfxfxf
TTTTT		KE		X,1111111111111111X

1.34654466464646464696

STAGE = transfer the file to AQS; if the file has problems (incorrect header, etc) this step results in STAGE-ERROR LOAD = process the file into AQS, for Raw Data, this includes both LOAD and STAT/CR POST = move any Reported Data to Production status in order to make it publicly accessible; only applies to RD

¹ Check "Records Failing to Load" column.

² Stop on Error only applies to the POST step; if you aren't going through POST, then this setting is ignored .

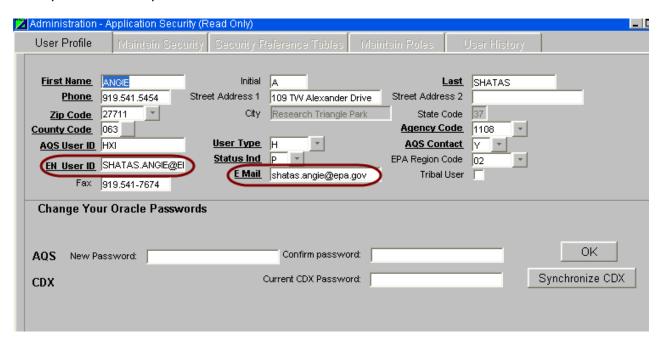
³ POST only applies to Raw Data.

Appendix B: ENSC Account

For registered users of AQS who have the authority to upload data, the AQS Team already established your ENSC User ID. The ENSC User ID is the email address that was on file in AQS, and the password is what you had for your CDX account.

If you submit through an EN Node, make sure that your EN User ID = Node Administrator User ID.

Check your AQS Security Profile.



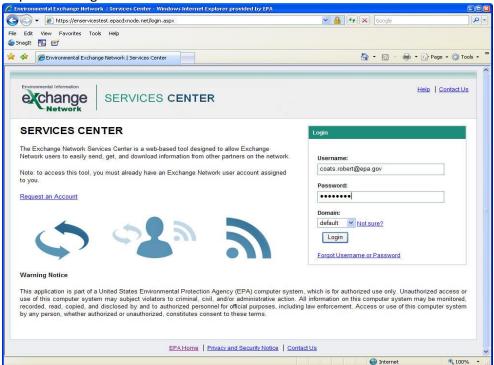
Appendix C: ENSC One-Time Setup

URL: https://enservices.epa.gov/login.aspx

Username = your email address (from AQS Profile)

Password: Same as CDX Web password

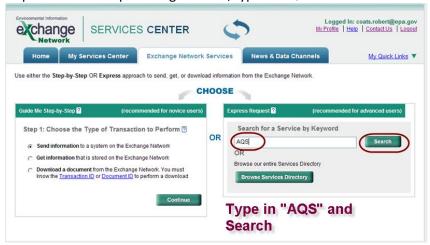
Step 1: ENSC login form:



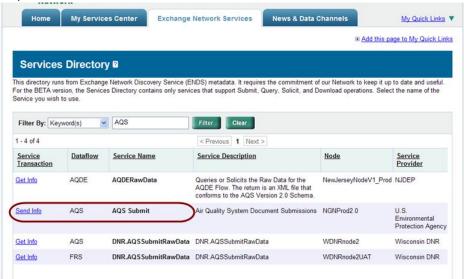
Step 2: On your first login:



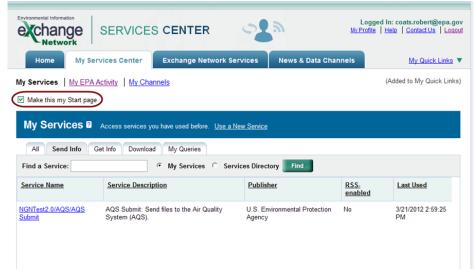
Step 3: From the Express Register box, type in AQS and click on the Search button.



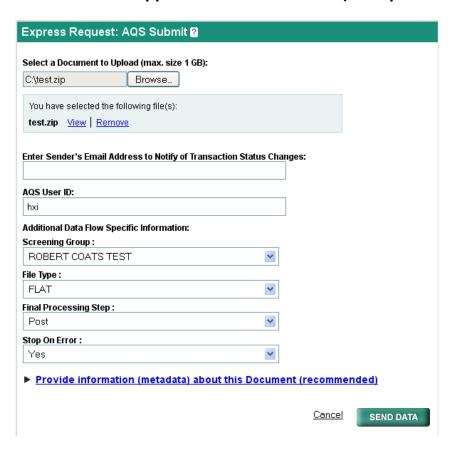
Step 4: Then choose "Send Info" here:



Step 5: We suggest you go to the "My Services Tab" and check "Make this my Start page." This will then be your starting point each time:



Appendix D: Submit Form (Example of Completed)



Appendix E: Examples of Email Notifications

It is <u>optional</u> to get the emails from the ENSC. (Helpful in the case you want someone else, *i.e.*, a colleague or your EN Node Administrator, to see EN results.) You must then, on the ENSC Submit Form, supply an email address to receive EN notifications. These emails will be from "cdx" with subject "[cdx-aqs]..."

cdx [cdx-aqs] Transaction is finished with status COMPLETED

Otherwise, AQS will <u>always</u> send emails to the email address ("E Mail") specified your AQS Security Profile. These emails will be from "AQS Team" with subject "AQS Processing Results." The emails would contain the same information as any from the ENSC.

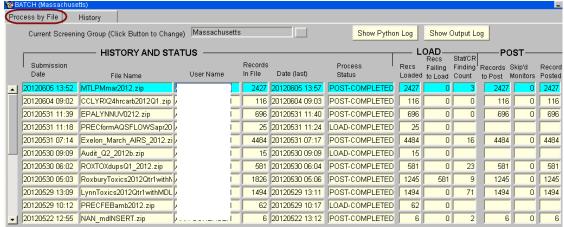
AQSTeam. AQS Processing Results AQS Processing Summary (User Log) For AQS user: HXI In screening group: PM25 Speciation On 2012-05-23 at 15:07 Performing the following steps: STAGE LOAD Stop on error set to: YES STAGE step completed for file: MonitorsOut_48141004405_ReadyToLoad.zip Number of data rows successfully staged: 116 Number of data rows that failed to stage: None LOAD step completed for file: MonitorsOut 48141004405 ReadyToLoad.zip Number of rows successfully loaded: 0 Number of raw data rows successfully loaded: 0 Number of rows that failed to load: 116 Load summary and detail report is at this URL: https://aqs.epa.gov/aqsweb/aqstmp/2012-05-23_15.07.27_3455/811602_LOAD.pdf No transactions successfully processed by Load step. No more processing performed. Processing complete.

Appendix F: Batch Screen Tabs

Two tabs are available:

"Process by File" Tab

This tab shows the processing by file.

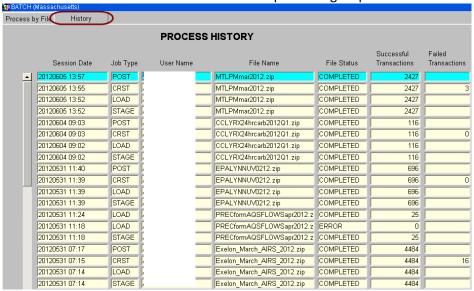


Column counts under LOAD and POST (*i.e.*, "Recs Loaded") show the cumulative set of processing performed on a file. For example, you submit a file where 10 records load successfully, the "Recs Loaded" column would show 10. Later, you go into Correct and fixed 1 error, the second LOAD record for this file in the "Recs Loaded" column would show 11.

However, all of the reports (i.e., "Load Summary and Errors") show the results of a single processing step. For the example, after first LOAD, the "Load Summary and Errors" report would show 10 records posted; after second LOAD, it would just show 1.

"History" Tab

Use this tab to see the results of all individual processing steps done for a file.



For any individual processing operations that you have executed, you can get the reports *for that operation* by using the buttons at the bottom of the form.

Appendix G: Common Questions

ENSC

- 1. Will I have to register for a new Exchange Network User ID?
 - Yes, but the AQS Team did this for you as part of the migration process.
- 2. Who will set up the EN user accounts EPA RO, EPA HQ (AQSTeam) or the EN Helpdesk?
 - The AQS Team will do the initial EN account setup.
- 3. Does the password synch feature in AQS work?
 - No, there is no password sync between AQS and the ENSC like there was with CDX.
- 4. What if a state has multiple regions submitting data to a different screening file under a single EN? How will AQS know which screening file to place the data?
 - The EN email is the same for each region.
- 5. On the ENSC website, can a .zip file contain multiple AQS transaction files? Can you submit multiple files at one time?
 - No, you may only submit one zipped file at a time. Each file must be zipped (*i.e.*, file extension must be .zip) and you can use any version of free or commercially available file compression software. You cannot zip multiple files together for a submission, but you could append multiple text files together to create one large text file.
- 6. Since we can't load multiple files at one time, we have to fill out the ENSC upload form each time we load a file. Will there be default information filled in on the forms based on a user ID?
 - Not at this time. We have passed this requirement on to the EN staff.
- 7. Will I get 2 emails notifying me of transaction status? Why is there an optional email address on the ENSC form?
 - Not unless you want 2 emails.
 - AQS will send emails to the email address ("E Mail") specified your AQS Security Profile. These emails will be from "AQS Team" with subject "AQS Processing Results." The emails would contain the same information as any from the ENSC.
 - If you also want emails from the ENSC then, on the ENSC Submit Form, you may supply an email address that would also receive EN notifications. This would be in the case you want someone else, *i.e.*, a colleague or your EN Node Administrator, to see EN results. These emails will be from "cdx" with subject "[cdx-aqs]..."

File submittal process

- 1. Are you saying that I don't have to logon to AQS in order to submit a data file?
 - Yes, that is correct. You can logon to the ENSC, submit the file, select final processing step of "Post" and never need to logon to AQS.
- 2. What happens if I submit a file and have errors?

- If the errors occurred during STAGE, then there is something wrong with the structure of your file
- If the errors occurred during LOAD, then you can go into AQS and use "Correct" to fix any errors. You can also correct the errors outside of AQS and resubmit the corrected file.
- If you submit a file with the final processing step = "Post" and Stop on Error = "yes", then all "good" data goes through. Any "bad" data remains unposted and you must logon to AQS and use the Correct tables to correct any errors.
- 3. When do I get an email?
 - With completion status.
 - If the job ran cleanly.
 - If the job ended with "warning" status or with "error" status.

NOTE: All emails will contain a link to the combined reports.

- 4. Will the process be the same for P&A data?
 - Yes.

AQS

- 1. Can I still delete by screening group?
 - Yes.
- 2. Will I still be able to delete pre-production data via Maintain? This is useful when a file has loaded with many errors.
 - Yes. None of that functionality has changed.
- 3. Is there a Help button?
 - Context sensitive Help is available.
- 4. Will the Raw Data Inventory Report be automatically mailed to the user?
 - Yes, a link to the report will be included in the completion status email.
- 5. Is "Warning" the same as "Error"?
 - Warning is not the same as Error. Warning does not stop data from being posted; Error will stop the data from being posted. You will receive a completion status for Warning and/or Error.
- 6. With this new process, will the AQS Retrievals be in XML format only?
 - No, the output options for AQS Retrieval haven't changed.
- 7. If I have errors in my submittal, will I need to go into AQS?
 - Yes.

General

- 1. If I have questions, whom do I contact?
 - AQS Level 2 User Support: 866-411-4372 or epacalcenter@epa.gov
 - AQS Team: AQSTeam@epa.gov
 - Exchange Network Call Center: helpdesk@epacdx.net
- 2. Is funding available for any hardware changes associated with this new process?
 - Yes, contact the Exchange Network.
- 3. To which email address will user mailings be sent?
 - The AQS Team will use the email on file on your AQS Security profile.
- 4. How long will Load reports be available in the email link?
 - You will be able to access reports via the embedded link for 15 days.